SEQ-50

US Model
Canadian Model
E Model
AEP Model
UK Model

GRAPHIC EQUALIZER

SPECIFICATIONS

Input	Stereo miniplug × 1
Output	Stereo mini jack × 2
Frequency response (with all controls set flat)	70–15,000 Hz
Distortion (rated output)	Less than 0.2%
Signal-to-noise ratio (with all controls set flat, A network)	65 dB
Center frequencies	100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz
Boost/cut range	±10dB
Gain (with all controls set flat)	0dB

General

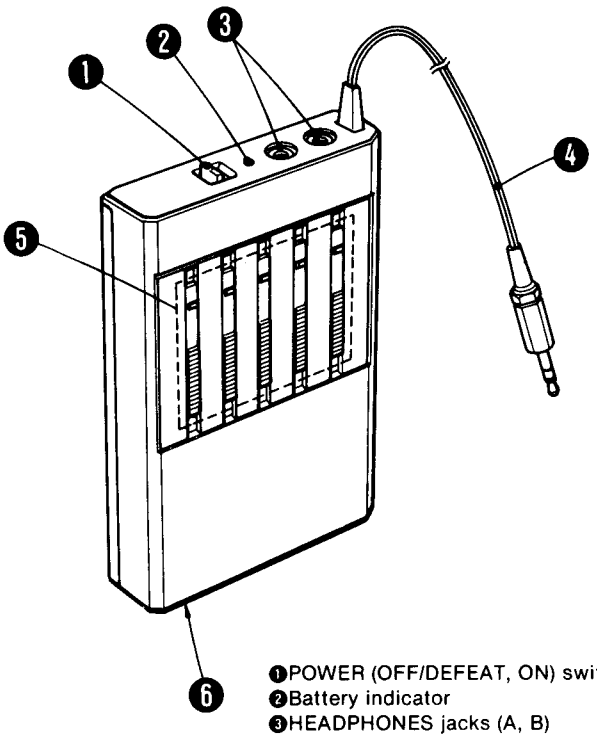
Power requirements	3 V dc, two batteries, IEC designation R6 (size AA)
Battery life	Approx. 35 hours using Sony SUM-3(NS) New Super batteries
Dimensions	Approx. 79 × 108 × 20.5 mm (w/h/d) ($3^1/_8 \times 4^3/_8 \times {}^{13}/_{16}$ inches) not incl. projecting parts and controls
Weight	Approx. 120 g (4.2 oz) not incl. batteries

Design and specifications subject to change without notice.

MICROFILM

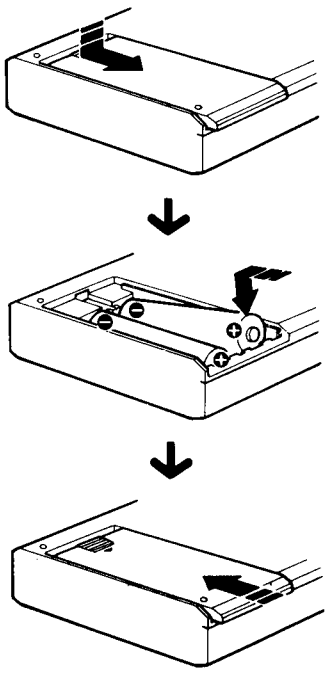
SONY®
SERVICE MANUAL

LOCATION OF CONTROLS



❶POWER (OFF/DEFEAT, ON) switch
❷Battery indicator
❸HEADPHONES jacks (A, B)
❹Stereo mini input plug
❺Equalizer controls
❻Battery compartment

ON BATTERIES



Battery installation

Open the battery compartment lid, insert two batteries, IEC designation R6 (size AA), with correct polarity as illustrated, then close the lid.

- The flat sides of the batteries press against the springs.

Battery life

When equalizing, you can expect Sony SUM-3(NS) New Super batteries to last for approximately 35 hours.
Intermittent use will prolong the useful battery life.

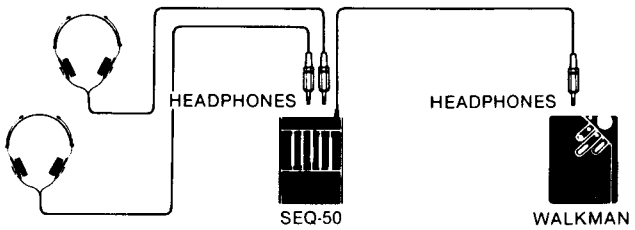
To check battery condition

Check the battery condition by observing the battery indicator. If the batteries become weak while the equalizer is in operation, the indicator light will glow faintly. When the batteries are exhausted completely, the indicator will not light.

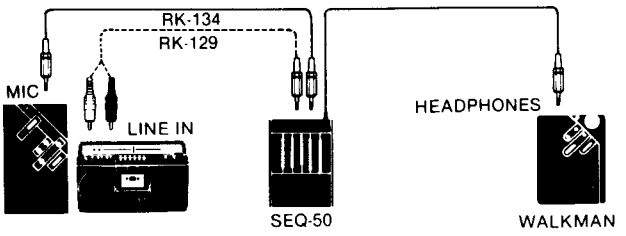
- Equalization with weak batteries will cause weak and distorted sound, and it will be necessary to replace all the batteries with fresh new ones.

CONNECTIONS

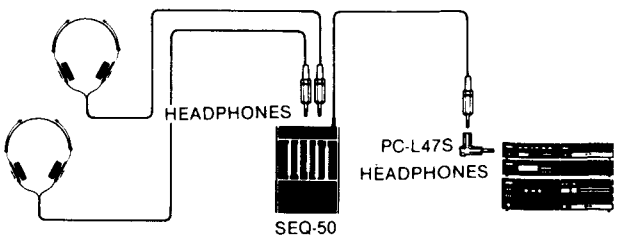
1 **To equalize the playback sound of WALKMAN, etc.**



2 **To copy a tape**



3 **To remotely control the tone of the stereo system**



To extend the cord of the stereo miniplug of SEQ-50, use the RK-G138 extension cord (optional).

SEQ-50

SERVICE MANUAL

SUPPLEMENT

File this supplement with the Service Manual.

US Model
Canadian Model
AEP Model
UK Model
E Model

1. Gray type has been added.
Add the following parts in the Service Manual on page 9.

No. 1
May, 1984

GENERAL SECTION

Ref. No.	*Part No.*	*Description*
1	2-377-808-00	(GRY) ... CASE, FRONT
2	2-377-807-00	(GRY) ... KNOB, SLIDE
4	2-284-621-02	(GRY) ... BUSHING (A)
5	1-556-726-00	(GRY) ... CORD (WITH PLUG)
6	2-377-801-00	(GRY) ... KNOB, POWER
7	X-2377-801-1	(GRY) ... CASE ASSY, REAR
11	2-377-802-00	(GRY) ... LID, BATTERY CASE

ACCESSORIES AND PACKING MATERIALS

	3-701-329-00	(GRY) ... LABEL, PRODUCT COLOR

2. Following Part No. have been changed.

Ref. No.	*Description*	*Former Part No.*	*New Part No.*
5	(BLK) ... CORD (WITH PLUG)	1-555-691-00	1-556-726-21
6	(BLK) ... KNOB, POWER	2-377-801-00	2-377-801-11
8→12	SPRING (A)	2-377-804-00	2-377-819-00 (See page 2.)
8→13	SPRING (B)	2-377-804-00	2-377-820-00 (See page 2.)
PT301	PLATE, CONTACT, BATTERY TERMINAL	2-377-806-00	2-377-817-00
VR301–305	RES, VAR, SLIDE 20k/20k	0-731-200-00	1-228-933-00

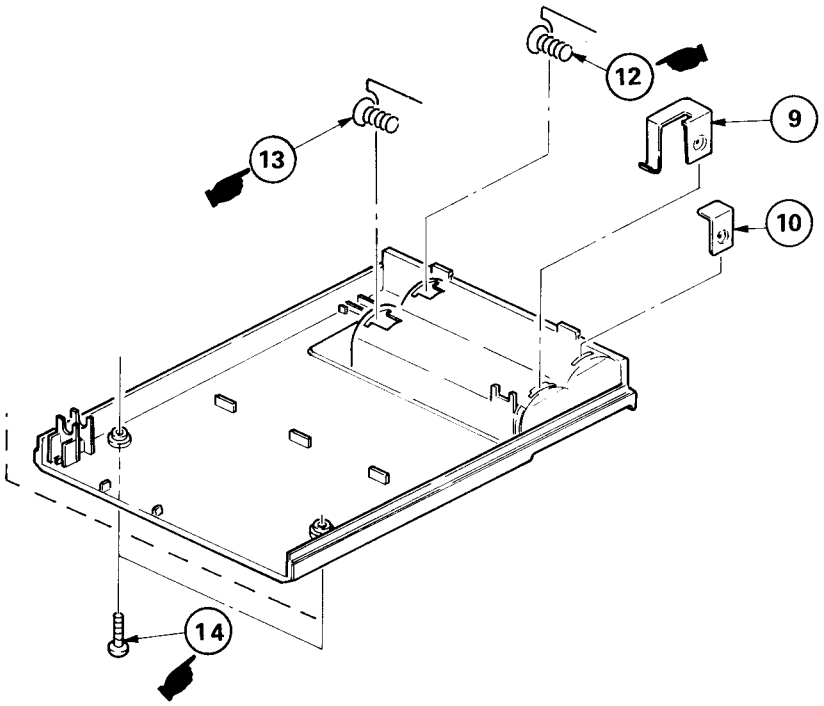
GRAPHIC EQUALIZER

SONY®

AUD

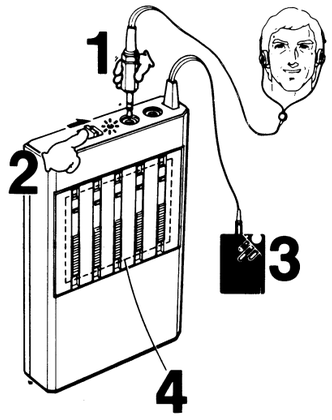
3. Add the following parts in the Service Manual on page 9.

Ref. No.	*Part No.*	*Description*
14	7-685-136-14	(GRY) ... SCREW +P2.6 x 12 TYPE2 NIN-SLIT
14	7-685-136-19	(BLK) ... SCREW +P2.6 x 12 TYPE2 NIN-SLIT



© 1984

OPERATION



1 To HEADPHONES jack.
2 Set the POWER switch to ON.
3 Play the program source.
4 Slide the equalizer controls of the frequency bands to be equalized gradually upwards or downwards.
5 Set the tape recorders in recording mode for tape copying.

To check the equalization results
Set the POWER switch to the OFF/DEFEAT position.
The equalizer circuit is bypassed and you can monitor the non-equalized original sound.

Note
The sound will be cut off for about one second if the POWER switch is set to ON while the program source is being played. This is no problem.

HOW TO EQUALIZE

How to adjust the equalizer controls
First set all controls at their position, and then slide the control of the frequency band to be equalized gradually upwards or downwards until you perceive an apparent improvement. If the adjustment doesn't produce the anticipated improvement, return the control to the center position.

The frequency coverage and effect of each equalizer control

100 Hz control
Use this control to boost or cut the normal bass in a piece of music.

300 Hz control
This control governs the low-middle range and greatly influences the overall characteristics of the sound.

1 kHz control
Use this control to provide more presence for vocals. The adjustment of this frequency band can move the sound forward, or into the background.

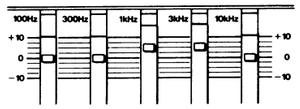
3 kHz control
This frequency band contains sounds which if not properly balanced can be very irritating. Slide downwards to reduce stridency; slide upwards to obtain a brighter brass sound.

10 kHz control
Adjust this control so that the sound from a violin is silky smooth.

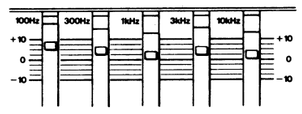
EXAMPLES OF EQUALIZER CONTROL SETTINGS

The following are examples of how the equalizer controls might be set to achieve various results.

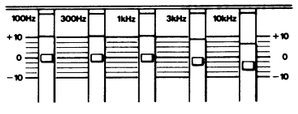
To provide more presence for vocals
The fundamental frequency of vocal is around 1 kHz.
Slide the 1 kHz and 3 kHz controls upward. The vocal sound has more presence.



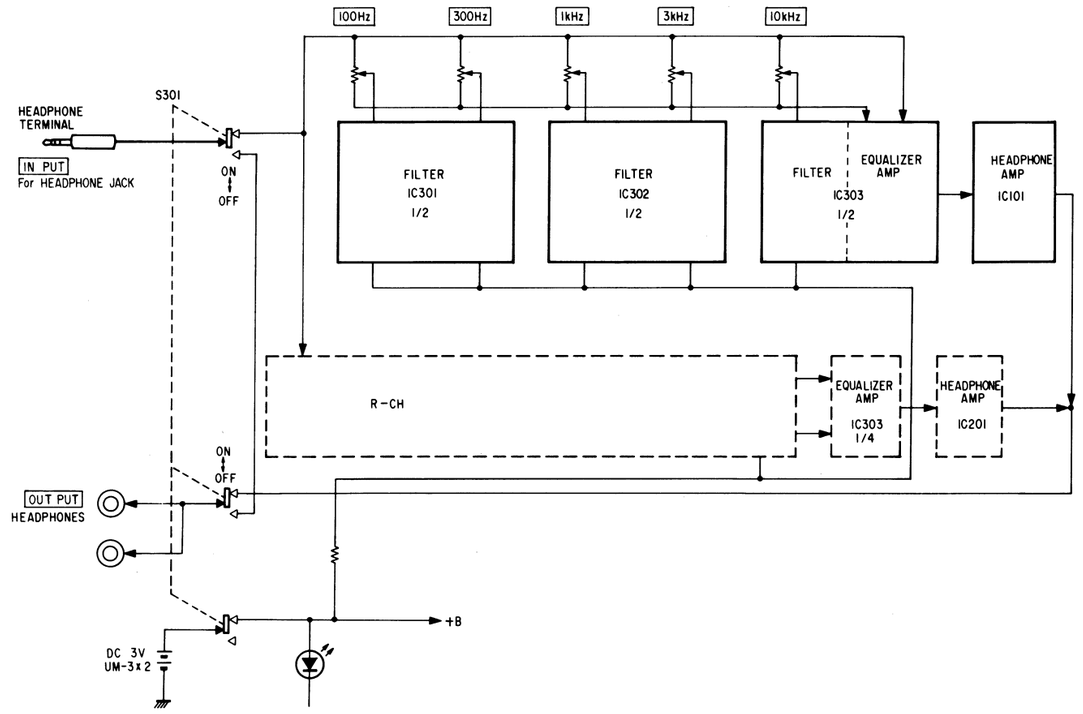
To make disco sound more powerful
To emphasize the bass guitar and bass drum, form a peak of which the center frequency is 100 Hz.
Also slide the 3 kHz control upwards slightly to make the sound crisper.



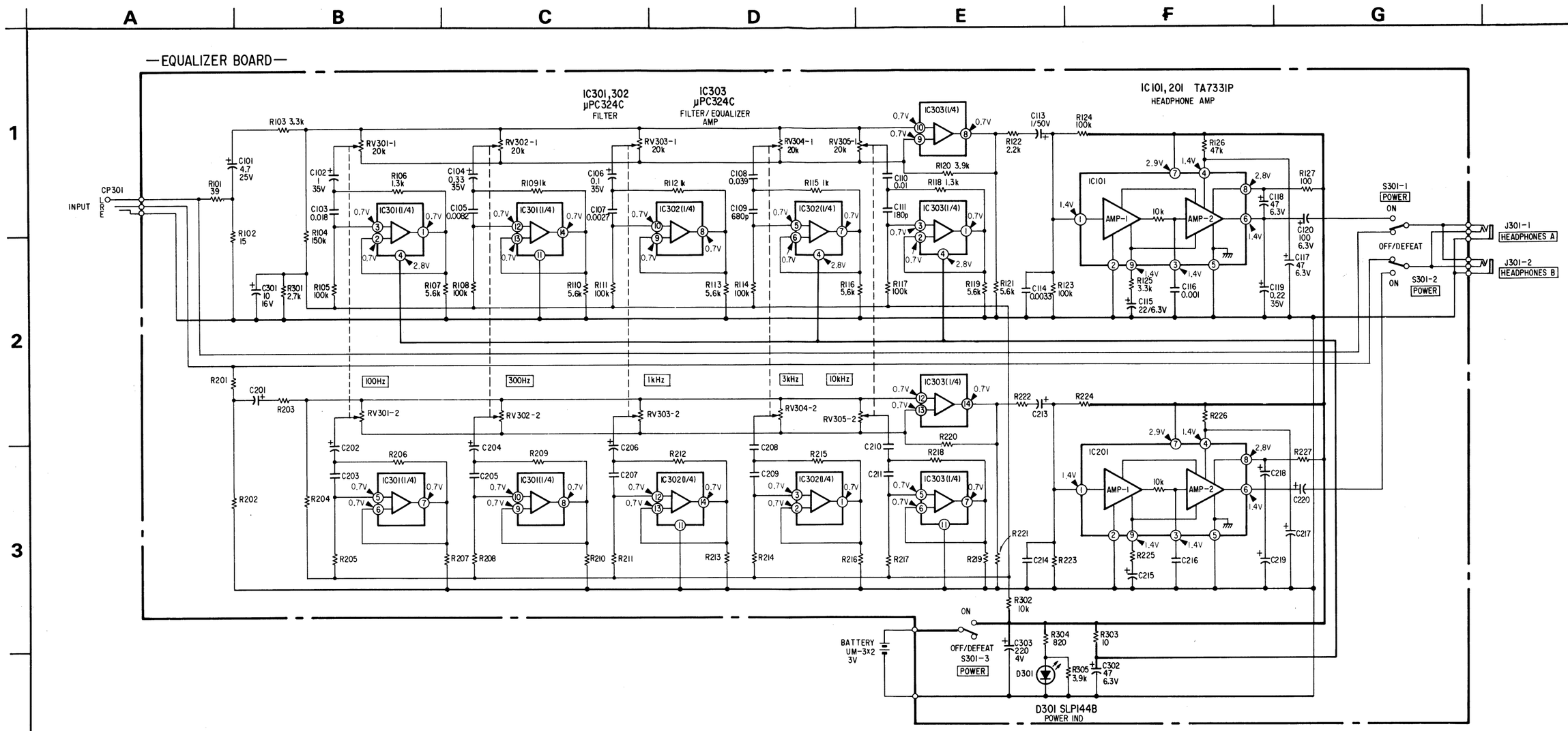
To cut tape hiss
As tape noise is in the high-frequency range, slide the 3 kHz and the 10 kHz controls downwards.



1. BLOCK DIAGRAM



2. SCHEMATIC DIAGRAM

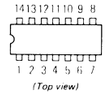


- The value of components on R-CH are the same as L-CH.
- All capacitors are in μF unless otherwise noted. P : μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. K : 1000Ω, M : 1000KΩ
- ▭ : panel designation.
- Readings are taken with a 1MΩ-ohm-per-volt digital multimeter.

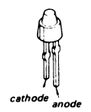
SEMICONDUCTORS

TA7331P

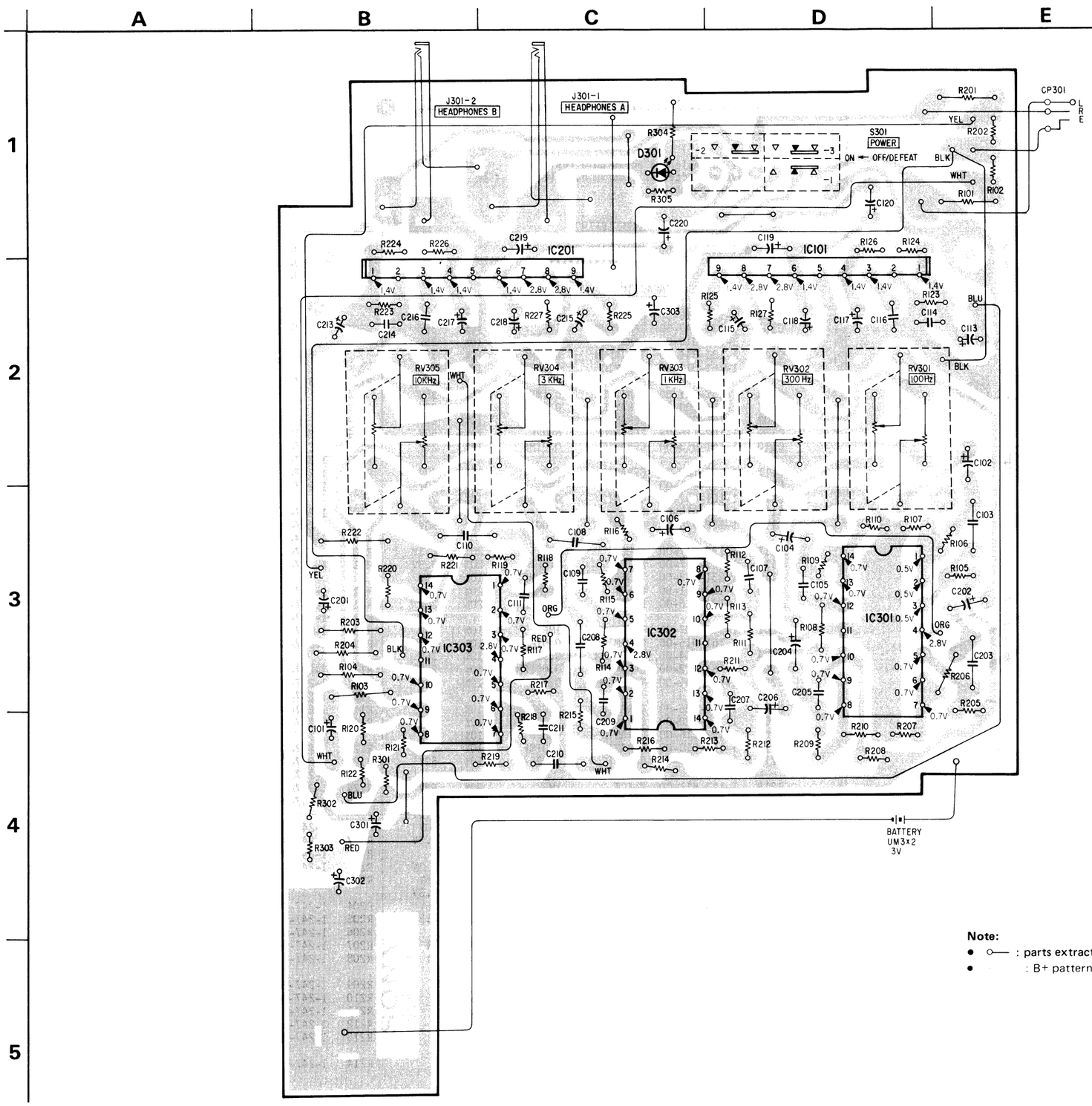
μPC324C



SLP144B



3. MOUNTING DIAGRAM

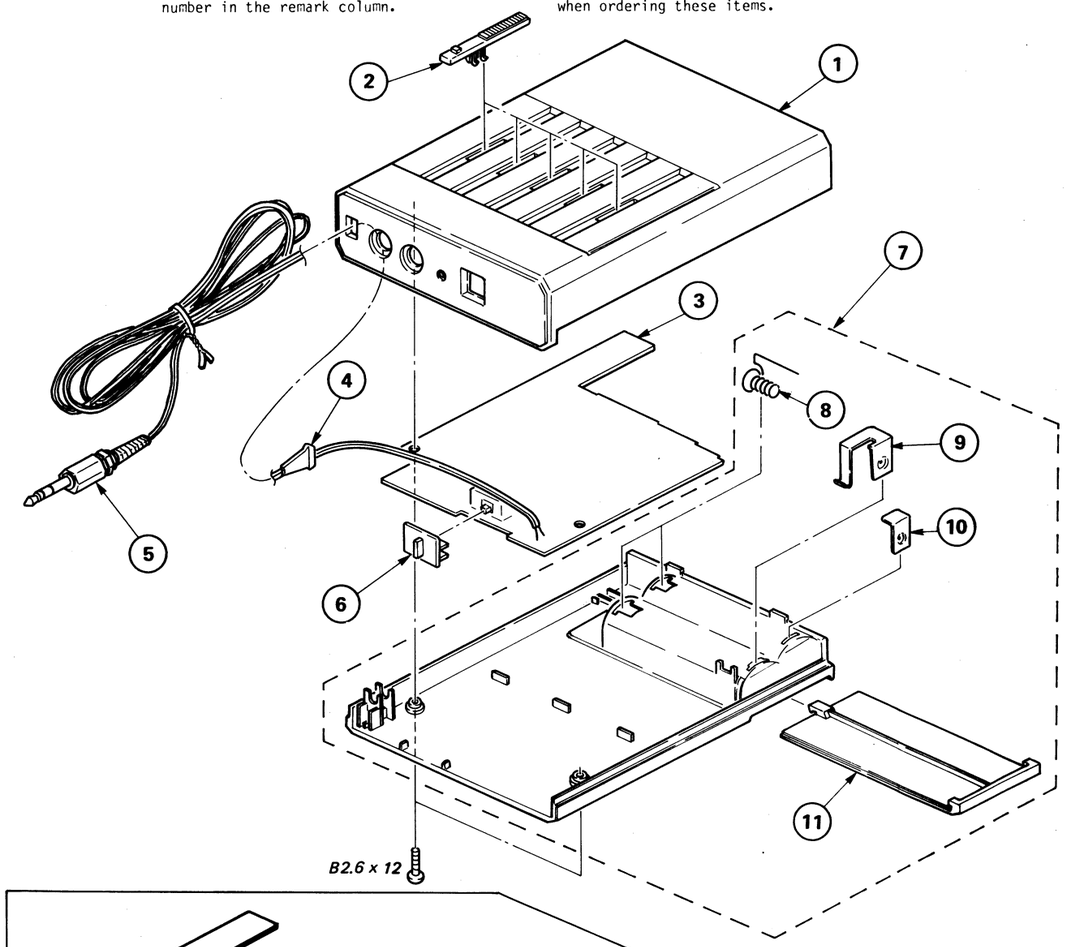


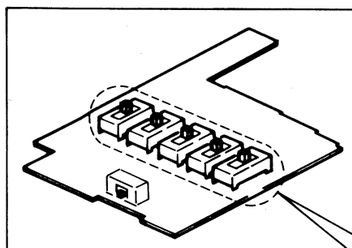
Note:

- ○— : parts extracted from the component side.
- : B+ pattern.

4. EXPLODED VIEW

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- As to the part numbered with E-, refer to the electrical parts list.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.





— Note on replacing the slide variable resistors —
Due to standardization, interchangeable replacements are supplied as a service part.
Please cut off the shaft of supplied variable resistor about 5 — 6mm as shown in figure, before mounting.

No.	Part No.	Description	Remark
1	2-377-808-11	CASE, FRONT	
2	2-377-807-11	KNOB, SLIDE	
3	♦:1-609-183-00	PC BOARD EQUALIZER	
	♦:A-3806-001-A	MOUNTED PCB, EQUALIZER	
4	2-284-621-11	BUSHING (A)	
5	1-555-691-00	CORD (WITH PLUG)	
6	2-377-801-00	KNOB, POWER	
7	X-2377-802-1	CASE ASSY, REAR	8,9,10,11
8	2-377-804-00	TERMINAL (-), BATTERY	
9	2-377-805-00	TERMINAL (+), B BATTERY	
10	2-377-803-00	TERMINAL (+), A BATTERY	
11	2-377-802-11	LID, BATTERY CASE	

5. ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

Ref.No.	Part No.	Description				Remark
♦:1-609-183-00		EQUALIZER BOARD **********				
		CAPACITOR				
C101	1-123-616-00	ELECT	4.7MF	20%	25V	
C102	1-131-347-00	TANTALUM	1MF	10%	35V	
C103	1-161-016-00	CERAMIC	0.018MF	10%	25V	
C104	1-131-344-00	TANTALUM	0.33MF	10%	35V	
C105	1-161-012-00	CERAMIC	0.0082MF	10%	25V	
C106	1-131-341-00	TANTALUM	0.1MF	10%	35V	
C107	1-161-006-00	CERAMIC	0.0027MF	10%	25V	
C108	1-161-020-00	CERAMIC	0.039MF	10%	25V	
C109	1-102-116-00	CERAMIC	680PF	10%	50V	
C110	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C111	1-102-109-00	CERAMIC	180PF	10%	50V	
C113	1-123-611-00	ELECT	1MF	20%	50V	
C114	1-161-007-00	CERAMIC	0.0033MF	10%	25V	
C115	1-123-618-00	ELECT	22MF	20%	6.3V	
C116	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C117	1-123-647-00	ELECT	47MF	20%	6.3V	
C118	1-123-647-00	ELECT	47MF	20%	6.3V	
C119	1-131-343-00	TANTALUM	0.22MF	10%	35V	
C120	1-123-661-00	ELECT	100MF	20%	6.3V	
C201	1-123-616-00	ELECT	4.7MF	20%	25V	
C202	1-131-347-00	TANTALUM	1MF	10%	35V	
C203	1-161-016-00	CERAMIC	0.018MF	10%	25V	
C204	1-131-344-00	TANTALUM	0.33MF	10%	35V	
C205	1-161-012-00	CERAMIC	0.0082MF	10%	25V	
C206	1-131-341-00	TANTALUM	0.1MF	10%	35V	
C207	1-161-006-00	CERAMIC	0.0027MF	10%	25V	
C208	1-161-020-00	CERAMIC	0.039MF	10%	25V	
C209	1-102-116-00	CERAMIC	680PF	10%	50V	
C210	1-161-013-00	CERAMIC	0.01MF	10%	25V	
C211	1-102-109-00	CERAMIC	180PF	10%	50V	
C213	1-123-611-00	ELECT	1MF	20%	50V	
C214	1-161-007-00	CERAMIC	0.0033MF	10%	25V	
C215	1-123-618-00	ELECT	22MF	20%	6.3V	
C216	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C217	1-123-647-00	ELECT	47MF	20%	6.3V	
C218	1-123-647-00	ELECT	47MF	20%	6.3V	
C219	1-131-343-00	TANTALUM	0.22MF	10%	35V	
C220	1-123-661-00	ELECT	100MF	20%	6.3V	
C301	1-123-617-00	ELECT	10MF	20%	16V	
C302	1-123-647-00	ELECT	47MF	20%	6.3V	
C303	1-123-827-00	ELECT	220MF	20%	4V	
		DIODE				
D301	8-719-901-44	DIODE SLP144B				
		IC				
IC101	8-759-203-31	IC TA7331P				
IC201	8-759-203-31	IC TA7331P				
IC301	8-759-132-40	IC UPC324C				
IC302	8-759-132-40	IC UPC324C				
IC303	8-759-132-40	IC UPC324C				
		JACK				
J301	1-507-665-00	JACK				
		BATTERY				
PT301	2-377-806-00	PLATE, CONTACT, TERMINAL, BATTERY				
		RESISTOR				
R101	1-247-797-00	CARBON	39	5%	1/6W	
R102	1-247-787-00	CARBON	15	5%	1/6W	
R103	1-247-843-00	CARBON	3.3K	5%	1/6W	
R104	1-247-883-00	CARBON	150K	5%	1/6W	
R105	1-247-879-00	CARBON	100K	5%	1/6W	
R106	1-247-834-00	CARBON	1.3K	5%	1/6W	
R107	1-247-849-00	CARBON	5.6K	5%	1/6W	
R108	1-247-879-00	CARBON	100K	5%	1/6W	
R109	1-247-831-00	CARBON	1K	5%	1/6W	
R110	1-247-849-00	CARBON	5.6K	5%	1/6W	
R111	1-247-879-00	CARBON	100K	5%	1/6W	
R112	1-247-831-00	CARBON	1K	5%	1/6W	
R113	1-247-849-00	CARBON	5.6K	5%	1/6W	
R114	1-247-879-00	CARBON	100K	5%	1/6W	
R115	1-247-831-00	CARBON	1K	5%	1/6W	
R116	1-247-849-00	CARBON	5.6K	5%	1/6W	
R117	1-247-879-00	CARBON	100K	5%	1/6W	
R118	1-247-834-00	CARBON	1.3K	5%	1/6W	
R119	1-247-849-00	CARBON	5.6K	5%	1/6W	
R120	1-247-845-00	CARBON	3.9K	5%	1/6W	
R121	1-247-849-00	CARBON	5.6K	5%	1/6W	
R122	1-247-839-00	CARBON	2.2K	5%	1/6W	
R123	1-247-879-00	CARBON	100K	5%	1/6W	
R124	1-247-879-00	CARBON	100K	5%	1/6W	
R125	1-247-843-00	CARBON	3.3K	5%	1/6W	
R126	1-247-871-00	CARBON	47K	5%	1/6W	
R127	1-247-807-00	CARBON	100	5%	1/6W	
R201	1-247-797-00	CARBON	39	5%	1/6W	
R202	1-247-787-00	CARBON	15	5%	1/6W	
R203	1-247-843-00	CARBON	3.3K	5%	1/6W	
R204	1-247-883-00	CARBON	150K	5%	1/6W	
R205	1-247-879-00	CARBON	100K	5%	1/6W	
R206	1-247-834-00	CARBON	1.3K	5%	1/6W	
R207	1-247-849-00	CARBON	5.6K	5%	1/6W	
R208	1-247-879-00	CARBON	100K	5%	1/6W	
R209	1-247-831-00	CARBON	1K	5%	1/6W	
R210	1-247-849-00	CARBON	5.6K	5%	1/6W	
R211	1-247-879-00	CARBON	100K	5%	1/6W	
R212	1-247-831-00	CARBON	1K	5%	1/6W	
R213	1-247-849-00	CARBON	5.6K	5%	1/6W	
R214	1-247-879-00	CARBON	100K	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R215	1-247-831-00	CARBON	1K	5%	1/6W	
R216	1-247-849-00	CARBON	5.6K	5%	1/6W	
R217	1-247-879-00	CARBON	100K	5%	1/6W	
R218	1-247-834-00	CARBON	1.3K	5%	1/6W	
R219	1-247-849-00	CARBON	5.6K	5%	1/6W	
R220	1-247-845-00	CARBON	3.9K	5%	1/6W	
R221	1-247-849-00	CARBON	5.6K	5%	1/6W	
R222	1-247-839-00	CARBON	2.2K	5%	1/6W	
R223	1-247-879-00	CARBON	100K	5%	1/6W	
R224	1-247-879-00	CARBON	100K	5%	1/6W	
R225	1-247-843-00	CARBON	3.3K	5%	1/6W	
R226	1-247-871-00	CARBON	47K	5%	1/6W	
R227	1-247-807-00	CARBON	100	5%	1/6W	
R301	1-247-841-00	CARBON	2.7K	5%	1/6W	
R302	1-247-855-00	CARBON	10K	5%	1/6W	
R303	1-247-783-00	CARBON	10	5%	1/6W	
R304	1-247-829-00	CARBON	820	5%	1/6W	
R305	1-247-845-00	CARBON	3.9K	5%	1/6W	

SWITCH

S301	1-554-387-00	SWITCH, SLIDE

VARIABLE RESISTOR

VR301	0-731-200-00	RES, VAR, SLIDE
VR302	0-731-200-00	RES, VAR, SLIDE
VR303	0-731-200-00	RES, VAR, SLIDE
VR304	0-731-200-00	RES, VAR, SLIDE
VR305	0-731-200-00	RES, VAR, SLIDE

****

MISCELLANEOUS
****

1-555-691-00	CORD (WITH PLUG)

****

ACCESSORIES AND PACKING MATERIALS
****

Part No.	Description	Remark
2-377-812-00	CUSHION (LOWER)	
2-377-813-00	CUSHION (UPPER)	
3-773-273-21	MANUAL, INSTRUCTION	
2-377-815-00	INDIVIDUAL CARTON	
3-701-328-00	LABEL, PRODUCT COLOR	
2-377-818-00	LABEL, INSTRUCTION	

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

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